SECTION 2D

Home health services

RECOMMENDATION

The Congress should eliminate the update to payment rates for home health care services for calendar year 2006.

COMMISSIONER VOTES: YES 15 • NO 0 • NOT VOTING 0 • ABSENT 2

SECTION 2D

Section 2D: Home health services

In this section

- Are Medicare payments adequate in 2005?
- How should Medicare payments change in 2006?
- Should the prospective payment system's structure change?

Access to home health care for most beneficiaries is good, though some beneficiaries report some difficulties. Quality has improved slightly. The number of certified agencies increased in the past year. The projected Medicare margin for home health services in 2005 is 12.1 percent, suggesting that Medicare's payments more than cover the costs of caring for Medicare home health users. We continue to be concerned that the payment system may not be distributing payments accurately and may affect access to care for some eligible beneficiaries. MedPAC and others should continue to examine the payment system's design.

Are Medicare payments adequate in 2005?

We find evidence of good access to care for most beneficiaries, though some beneficiaries continue to experience some difficulties. The quality of care has improved. We also observe an increase in the number of home health agencies (HHAs). In terms of volume, the numbers of episodes and users have risen, while the amount of service within an episode continues to fall. Few home health agencies seek capital through publicly traded shares or public debt; thus, these measures of access to capital are not very instructive in this sector.

Background: What is home health and the home health payment system?

Home health care is skilled nursing, therapy, aide service, or medical social work provided to beneficiaries in their homes. To be eligible for Medicare's home health benefit, beneficiaries must need part-time (fewer than eight hours per day) or intermittent (temporary but not indefinite) skilled care to treat their illness or injury and must be unable to leave their homes without considerable effort. There are no copayments or deductibles for Medicare home health services.

Medicare pays for home health service in 60-day units called episodes. Episodes begin when patients are admitted to home health care. Most patients complete their course of care and are discharged before 60 days have passed. If patients' care is not completed within 60 days, another episode of payment may start without a break in their care.

Agencies will receive a base payment of $2,268 per episode for home health services in calendar year 2005. The base payment is adjusted to account for differences in patients' expected resource needs, as reflected by their clinical and functional severity, recent use of other health services, and therapy use. Payment also is adjusted for differences in local prices by the hospital wage index. Adjustments for several other special circumstances, such as unusually high costs or very short episodes, can also modify the payment:

- An outlier payment can offset some of the excess cost of an episode if the labor cost exceeds the payment.
- A low utilization payment adjustment (LUPA) requires payment by the visit if a patient receives four or fewer visits during an episode.
- A significant change in condition adjustment can increase the payment for days remaining in an episode after a major change in a patient's health.
- A partial-episode payment allows two agencies to split the payment for a patient who transfers from one agency to another during an episode.

In the early 1990s, both the number of users and the amount of service they used grew rapidly. At the same time, the home health benefit increasingly began to resemble long-term care and look less like the medical services of other post-acute care benefits in Medicare. For example, in 1996 care from home health aides made up 49 percent of all visits provided; skilled nursing visits, 41 percent; and therapy visits, the remainder (HCFA 1998). One-third of all visits were provided to beneficiaries who received more than 300 visits a year (MedPAC 1998).

The 1990s trends prompted changes in the enforcement of integrity standards, eligibility, and the payment system. The Secretary initiated Operation Restore Trust,[1] which scrutinized Medicare home health and prompted the involuntary closure of many agencies that did not comply with the program's integrity standards. The Congress also established civil liabilities for physicians who knowingly falsely certified the eligibility of a beneficiary. The Balanced Budget Act of 1997 (BBA) included refinements to the eligibility standards and changes to the payment system that made the service more similar to Medicare's other post-acute care services. The act's changes led to fewer visits and reemphasizing skilled nursing and therapy as a share of services. After these changes, the number of beneficiaries using home health care fell by about 1 million, and one-third of agencies providing services left the program. Spending decreased by about half.

More recently, the trends have changed direction. The total number of beneficiaries using the benefit grew for the first time in several years between 2001 and 2002, from about 2.4 million users to 2.5 million, and again in 2003 to 2.6 million. The Congressional Budget Office (CBO) projects that home health spending will grow 12.6 percent in 2005 and continue to grow at around 10 percent each year for the next five years (CBO 2004).

Ambiguity of product definition and standards seriously limits analysis of this sector

Although Medicare's home health benefit seems relatively straightforward, the particulars of this benefit are not clear (MedPAC 1999, 2000). By statute, the purpose of the home health benefit must be the same as the general purpose of all the services covered by the Medicare program—that is, the diagnosis or medically necessary treatment of illness, injury, or deformity over a spell of illness. But precisely how the concepts of medical necessity and spell of illness pertain is less clear for this service than for others. Home health has few definitive clinical practice standards to determine what treatments are necessary and for what kinds of patients they are appropriate. The lack of standardization is also evident in the large variation in the average minutes of services per episode for similar types of patients (see discussion "Should the prospective payment system change?" in this chapter).

The eligibility criteria for home health provide some limit to the amount of service the program will cover. As set forth in regulation and interpreted in the manuals for home health, the program only covers home health services for beneficiaries who need part-time or intermittent skilled care to treat their illness or injury; the patients must be homebound—that is, be unable to leave their homes without considerable effort. Patients who need full-time skilled nursing care over an extended period generally would not qualify for Medicare home health benefits (CMS 2001).

Using these eligibility criteria to determine coverage leaves a great deal up to interpretation. Coverage decisions are made by regional fiscal intermediaries, and the benefit varies across the country. In addition to varying geographically, interpretations have varied over time. Initially, beneficiaries' need for care had to be part time *and* intermittent to qualify; a subsequent judicial review interpreted the criteria as part time *or* intermittent, which allowed a much larger number of beneficiaries to qualify.

The lack of definition and clinical guidance for this benefit makes it difficult to interpret some of the indicators we use to assess payment adequacy, especially access and quality. How do we know whether beneficiaries have appropriate access when it is not clear who among them requires the service? How do we know whether beneficiaries receive the right service without clinical guidelines? As we have recommended, it is important to establish clear eligibility and coverage guidelines in statute (MedPAC 1999) and to pursue the research agenda to develop clinical guidelines (MedPAC 2000). In the interim, serious ambiguities will persist in any assessment of this benefit.

Beneficiaries' access to care

In the home health setting, we have three indicators to give us information about access:

- Do communities have providers?
- Do beneficiaries obtain care?
- Do beneficiaries obtain appropriate care?

The answer to the first question indicates whether beneficiaries could receive home health if they needed it; though it does not tell us whether beneficiaries do get that care. By surveying beneficiaries who got home health care and those who did not, the second indicator tells us how many beneficiaries sought care and whether they got it. It does not tell us whether ineligible beneficiaries sought care and were denied it. Finally, we use outcome measures as indicators for the third question because good outcomes should be closely linked to beneficiaries receiving the care they need.

In answer to our first question: Most communities have a Medicare-certified home health agency. In 2004, 99 percent of all Medicare beneficiaries lived in an area that is served by at least one home health agency.[2] Ninety-seven percent of beneficiaries live in an area that is served by more than one agency; most beneficiaries thus have a choice among providers. This evidence suggests that no substantially populated areas of the country lack HHAs. These results are essentially the same as they were in 2003.

In answer to our second access question, it appears that most beneficiaries can obtain care with little or no difficulty. Nearly 90 percent of the beneficiaries who responded to the Consumer Assessment of Health Plans Survey (CAHPS) about their home health experiences in 2003 reported that they had little or no difficulty accessing home health services when they sought them (Table 2D-1, p. 108).[3,4] The percentage of beneficiaries who did *not* have a problem was higher in 2003 than in 2002, while the percentage of beneficiaries who had a small problem was lower in 2003 than in 2002.

TABLE 2D-1

Most beneficiaries had little or no problem accessing home health services, 2000–2003

	2000	2001	2002	2003
Did you experience a problem?				
No problem	76%	74%	76%	77%*
A small problem	13	13	13	12*
A big problem	11	12	12	11

Note: Percentages are proportions of those who answered the question. Missing responses are not included. Columns do not total 100 due to rounding. *The difference between 2002 and 2003 is significant at the P<.05 level.

Source: Consumer Assessment of Health Plans Survey, 2000–2003.

Policymakers, concerned about rural beneficiaries' access to home health care, included add-on payments for services for rural beneficiaries until April 2003. The add-on expired in April 2003 and was not available for one year; it returned at a lower rate for one year in April 2004 and will expire again in 2005. We compared the access to care that rural beneficiaries reported in 2002 and in 2003 as an indicator of the impact of the lapse of the add-on. We found that rural beneficiaries reported better access to care than their urban counterparts did in both years and the percentage of rural beneficiaries who did not have a problem with access remained at 80 percent in both years. This suggests that while the expiration of the add-on did lower the margins of rural home health agencies, it did not have an impact on beneficiaries' access to care.

The CAHPS measures include all beneficiaries who sought care, both those who acquired it and those who did not. Also, the question is not restricted to only beneficiaries who sought care following a hospitalization, as were some surveys in the past. Unlike similar surveys of hospital discharge planners or home health agencies, however, it cannot differentiate between beneficiaries who are eligible for the home health benefit and those who are not. Thus, the survey may overestimate the difficulties of beneficiaries who are eligible for the benefit because it includes beneficiaries who were ineligible and had a "big problem" getting home health because they were not qualified for the Medicare home health benefit.

To answer our third access question, we look at outcomes measures. Outcomes are important measures of access because they are the only ones that suggest whether beneficiaries are getting the care that they need, rather than merely using care. The fact that outcomes have slightly improved suggests that home health users' access to appropriate care has not diminished. If fewer patients were able to access the care they need, we would expect outcomes to decline. This finding is discussed later in this chapter, in the section "Changes in quality."

Changes in the volume of services

The term "volume" encompasses three concepts: the number of users, the number of episodes they use, and the amount of service per episode. Recently, the numbers of users and episodes have risen, but the amount of service within an episode continues to fall:

- From 2001 to 2003 the number of home health users rose from 2.4 million beneficiaries to 2.6 million.
- Over the same period the number of episodes rose from 34 million to 36 million.
- The amount of service within an episode continued to fall. In 2001 the average number of visits per episode was 18.9; in 2003 it was 17.3—a decrease of 8.5 percent in two years.
- The average number of total minutes per episode fell 8 percent from 2001 to 2003 (Table 2D-2). Minutes of skilled nursing and aide service declined; therapy minutes remained about the same; thus, therapy increased as a proportion of total visits per episode.[5]

The trend in minutes by visit type in this table suggests that the benefit continues to encourage growth in therapy services as a proportion of all services. The home health prospective payment system (PPS) includes a threshold for therapy visits; if met or exceeded, the payment for that episode increases substantially. There is no threshold for skilled nursing or aide visits.

Changes in quality

The improvement in quality scores suggests that beneficiaries' access to appropriate care has not decreased (Table 2D-3). These scores represent the percentage of patients who did improve out of the total number who could improve (improvement) or the percentage of

TABLE 2D-2

Nursing and aide service continue to decrease

	Average minutes per episode		
	2001	2002	2003
Skilled nursing	354	355	332
Home health aide	279	270	229
Physical therapy	180	187	184
Occupational therapy	32	34	33
Speech (therapy)	7	7	6
Medical Social Work	10	10	9
Total	944	945	865

Note: Excludes outlier episodes. Averages by visit type do not total the average total minutes because few episodes include visits of all types.

Source: MedPAC analysis of 20 percent sample of the Datalink file from CMS.

patients who did not decline out of those who could decline (stabilization). The share of patients who achieved a positive outcome is greater in the most recent period (from June 2003 to May 2004) than it was in the previous period (from June 2002 to May 2003).[6] More home health patients may thus be receiving appropriate care, enabling good outcomes.

These quality indicators are risk-adjusted to account for the diagnoses, comorbidities, and functional limitations of patients. Thus, to the extent possible, the improvements over time represent small increases in the quality of care from home health agencies, rather than changes in patient characteristics. It is possible, however, that improvements in coding the patient assessments are occurring and could contribute to the trend in scores.

TABLE 2D-3

Share of patients achieving positive outcomes increased

Measure	June 2002 to May 2003	June 2003 to May 2004
Improvement in:		
Walking around	34%	36%
Getting out of bed	49	51
Toileting	60	62
Bathing	57	60
Managing oral medications	35	38
Getting dressed	62	65
Stabilization at bathing	91	92
Patients who are confused less often	40	42
Patients have less pain	57	59

Source: 2003 and 2004 Home Care Compare from CMS.

Changes in supply of agencies

Over the past 10 years the number of home health agencies in the program has risen and fallen dramatically. Under the earlier cost-based payment system, hundreds of agencies entered the Medicare program. At its high point in 1997, more than 10,000 agencies had Medicare certification. The trend switched under the interim payment system of cost limits, which began in 1997. Between 1997 and 2000, about 3,000 agencies left the program. For several years after the PPS was implemented in 2000, the number of agencies remained around 7,000.

Looking at agency entry over the past 12 months shows a break from the steady state. As of October 2004 there were 7,530 agencies in the Medicare program—a 9 percent increase in one year. This growth rate could indicate that payments are attractive. The increase, however, may not reflect the creation of new agencies. Over the same period, CMS has been assigning unique identification numbers to branches of agencies. We do not know how many of the "entering" agencies were formerly branches of existing agencies and therefore not truly new.

The composition of the market has recently changed a little (Table 2D-4). Freestanding agencies were a slightly larger portion of agencies in 2003 than they had been in

TABLE 2D-4

Number of Medicare-certified agencies has recently increased

	1998	2000	2002	2003
Total agencies	9,284	7,317	6,888	7,530
Freestanding	72%	70%	72%	75%
Facility-based	28	30	28	25
Rural	32	35	34	—
Urban	68	65	66	—
Proprietary	55	49	52	55
Voluntary	31	35	34	31
Government	14	16	15	14

Source: 1998, 2000, 2002, and 2003 Provider of Service files from CMS.

the past several years. The distribution of agencies by type of control (proprietary, voluntary, or government) has returned to that of 1998, with a larger proportion of proprietary agencies. The proportion of agencies located in urban or rural areas has shifted only slightly.

The number of HHAs is an indicator of whether agencies have chosen to enter, remain in, or exit the program and as such is related to their judgment of the adequacy of Medicare's payments. However, the number is not an indicator of system capacity. Agencies range in size from very small HHAs serving fewer than 100 beneficiaries annually to much larger ones serving more than 5,000 beneficiaries a year. Also, the flexible structure of a home health agency does not fit the typical concept of capacity. HHAs are not restricted by bed size or other physical plant considerations (for example, number of exam rooms or operating rooms). Even the number of employees is not a capacity measure, because many HHAs can and do use contract therapists, aides, or nurses to meet their patients' additional needs.

Home health agencies' access to capital

Some evidence suggests that home health agencies have good access to capital. The Braff Group, which specializes in buying and selling home care companies, was strongly positive about Medicare home health as a sector (Braff Group 2004). The Group predicted that 2004 would be "a break-out year for merger and acquisition activity for Medicare certified home health agencies," citing a $150 million purchase of an agency out of bankruptcy and a very steep increase in the value of invested capital in another home health agency. The Group concludes that "access to debt appears to be improving" for the publicly traded home health sector.

A report from Smith Barney on the largest publicly traded home health agency rated the agency a "buy" with "high risk." (Ripperger and Bao 2003). The report forecasts a Medicare margin between 12 percent and 15 percent for home health agencies and asserts that agencies with high Medicare shares are attractive investments. Nevertheless, it also notes the challenge of predicting regulatory changes and the history of fraud and abuse as risks.

Few home health agencies access capital through publicly traded shares or public debt. Capital seekers' access to capital appears to be largely determined by their size and the perception of regulatory risk for the industry. In the broadest definition of the industry, national health expenditures for home health in 2001 totaled $33 billion, quite a small figure compared with the $450 billion for hospital care or even the $100 billion for nursing homes. The largest publicly traded home care company has only a 2 percent or 3 percent market share (CMS 2003).

Furthermore, the industry's access to capital is not indicative of the adequacy of Medicare's payments because Medicare is not the dominant player in the broadly defined home health industry. The industry includes all home care services, such as private duty nursing from agencies without Medicare certification and Medicaid home care services. Of this total, Medicare payments account for less than 30 percent. Medicaid's share of the broadly defined industry is nearly equal to Medicare's.

Though Medicare is not a dominant player in the home health industry, it is a substantial payer for many of the agencies that participate in Medicare. Medicare's share of revenue among those agencies that are Medicare-certified varies substantially from agency to agency. Among the six largest publicly traded HHAs, Medicare's share of payments ranges from less than 5 percent to nearly 90 percent (CMS 2003). Among agencies that are Medicare-certified, 70 percent of patients are Medicare fee-for-service beneficiaries. Medicare+Choice enrollees, Medicaid recipients, and patients with private pay sources each comprise about 10 percent of the remainder of the caseload of Medicare-certified agencies (Outcome Concept Systems 2002).

Although investor analyses of publicly traded agencies may be interesting, they probably do not provide useful evidence for gauging the availability of capital—nor the adequacy of payments—for most of the providers in this sector. Most HHAs are not publicly traded. Home health is not a capital-intensive service compared to "bricks-and-mortar" services such as inpatient hospital. Many HHAs might not seek capital in a given year or might use capital that we cannot measure, such as personal loans.

Payments and costs for 2005

One method the Commission uses to evaluate the adequacy of current payments is to calculate the relationship between payments and costs using current and projected data.

In modeling 2005 payments and costs, we incorporate policy changes that went into effect between the year of our most recent data, 2003, and our target year, 2005, as well as those scheduled to be in effect in 2006. These include:

- the expiration of the 10 percent rural add-on for services provided to beneficiaries living outside metropolitan areas on April 1, 2003;
- the restart of the rural add-on at 5 percent on April 1, 2004;
- the full market basket increase in October 2003;
- the decrease in the base rate of 0.8 in April 2004;
- the payment increase of 2.3 percent (market basket less 0.8 percent) in January 2005; and
- the expiration of the 5 percent rural add-on on April 1, 2005.

We did not include the January 2006 update of market basket minus 0.8 percent in the Medicare Prescription Drug, Improvement, and Modernization Act of 2003 (MMA) because that update is the question at hand. Our model of home health agencies' financial performance is based on data from freestanding home health agencies.

This model projects a current aggregate margin of 12.1 in 2005, which is a decline from our base year of 2003 (Table 2D-5). This margin indicates that the payments are more than adequate to cover the costs of caring for Medicare beneficiaries. A relatively small share of agencies are doing poorly in terms of their Medicare costs and payments, as the distribution of margins from 2003 indicates that 80 percent of agencies had positive margins.

Though the aggregate margin is high, some agencies will fare better than others. Variation in financial performance exists among private, typically for-profit agencies and those operated by voluntary organizations or the government. The relationship between financial performance and agency size that we noted in previous years persists this year: Generally, larger HHAs have higher margins.

In the absence of rural add-on payments, the margins of agencies that serve rural beneficiaries will be lower than those of urban agencies. We did find evidence of some impact of the expiration of the add-on in 2002: Rural agencies' service areas decreased 4.2 percent between 2002 and 2003. We noted, however, in the earlier section "Changes in beneficiary access to care" that the decrease in rural margins in 2003 was not accompanied by a loss of access for rural beneficiaries. We also found that use of home health services in rural areas grew in 2002 and again in 2003, at a faster rate than urban use.

TABLE 2D-5 **Freestanding home health Medicare margin, by agency group, 2003 and estimated 2005**

Agency group	2003	2005
All agencies	13.6%	12.1%
Caseload of agency		
Urban	14.1	13.2
Mixed	13.2	11.6
Rural	10.6	6.1
Type of control		
Voluntary	10.6	9.1
Private	15.8	14.3
Government	5.0	3.3
Volume group		
Very small (20th percentile)	10.6	9.1
Small (20th—40th)	10.1	8.6
Medium (40th—60th)	10.9	9.4
Large (60th—80th)	15.5	14.0
Very large (80th)	14.1	12.6

Source: MedPAC analysis of Medicare Cost Report data from CMS.

In addition to considering the average, aggregate margin, we also considered the median margin and the distribution of margins among agencies. In 2003 the median agency had a margin of 15.0, while the agency at the 10th percentile of financial performance had a margin of –12.6. The agency at the 25th percentile had a margin of 2.6. At the other end of the distribution, the agency at the 75th percentile had a margin of 26.6, and at the 90th percentile the margin was 37.2.

We also considered multiyear margins by aggregating payments and costs for all agencies for 2001, 2002, and 2003. The three-year financial performance was generally similar to the performance of 2003, which we have just discussed. The annual aggregate average margin was 14.5;

at the 25th percentile the margin was 3.8, and at the 75th it was 28.2. About 80 percent of all agencies had a positive three-year margin. Private agencies fared better than voluntary or government-controlled agencies. We did find, however, a smaller gap between urban and rural agencies, which had margins of 14.7 and 13.6, respectively.

How should Medicare payments change in 2006?

Do we think the adequacy of payments will change over the coming year? We consider the market basket, recent trends in cost per unit, productivity, and technology to determine how costs may change.

The projected market basket for home health for 2006 is 3.3 percent. The market basket reflects the increased prices of transportation, nursing wages, and other inputs that affect the cost of providing an episode of care.

Even though input prices have risen over the past several years, the cost of producing an episode of care has fallen. In 2003 episodes consisted of fewer visits, shorter stays, and more therapy, with less aide service and skilled nursing than they did in previous years. We examined the changes in costs of producing an episode of home health among a cohort of about 1,800 agencies that were in the program from 2001 to 2003. We found that their average cost of producing an episode fell 1 percent over that period. Behind the aggregate trend in costs there was wide variation from agency to agency: The largest agencies decreased their costs by 6 percent, while the smallest agencies saw their costs rise by 4 percent.[7] Urban and rural agencies varied as well; rural agencies reported much greater cost decreases than their urban counterparts, with decreases of 13 percent and 1 percent, respectively.

Although the product is changing, the outcomes are staying about the same because a slight increase in quality has accompanied the change. Because quality has not declined, we also conclude that HHAs are becoming more productive, generating the same outcomes with fewer inputs.

The important role nurses and aides play in home health exposes the sector to input price increases from labor shortages and increasing wages. The Government Accountability Office (GAO) found that demographic trends and low job satisfaction created the nursing shortage in 2001 and that these were likely to continue (GAO 2001). The GAO also found that demographic changes, low compensation, and difficult working conditions were contributing to the shortage of nurse aides. Other data suggest that this trend peaked in the middle of 2002 and has been reversed over the past several years (see Section 2A, Figure 2A-7, "Increase in average compensation rate for hospital employees peaked in early 2002").

This past summer organized groups of home health aides successfully bargained for higher wages. Home health services employ about 700,000 aides (Bureau of Labor Statistics 2004); the largest home health workers' union estimates that it has 290,000 members (Service Employees International Union 2004). This suggests that unionized workers make up a little less than half of the total home health care aides workforce. These upward pressures on wages may offset the cost decreases that we observed between 2001 and 2003.

Some current and future product change and productivity growth is caused by technological advances that lower costs as well as enhance quality. We discuss these in the chapter on information technology. Additional payment is not necessary to promote the adoption of these advances because the home health PPS provides an incentive and reward for the adoption of technologies that reduce the number of visits necessary to deliver care. The PPS payment is based primarily on the condition of the patient, rather than the number of visits; thus, technology that reduces visits generates its own financial return. Technological advances already have begun to proliferate in the home health care industry, slowly, and will probably continue to do so, enhancing quality over the long run.

RECOMMENDATION 2D

The Congress should eliminate the update to payment rates for home health care services for calendar year 2006.

RATIONALE 2D

We find evidence that access to care for most beneficiaries is good. The numbers of users and episodes have risen, but the amount of service within an episode continues to fall. Quality has risen slightly. There are more certified agencies now than there were one year ago. These factors, along with more-than-adequate margins, suggest that agencies should be able to accommodate cost increases over the coming year without an increase in base payments.

IMPLICATIONS 2D

Spending

- This recommendation decreases federal program spending relative to current law by between $200 million and $600 million in one year and $1 billion and $5 billion over five years.

Beneficiary and provider

- No adverse impacts on access are expected. This recommendation is not expected to affect providers' ability to provide care to Medicare beneficiaries.

Should the prospective payment system's structure change?

The home health PPS may not be distributing payments accurately. We find there is wide variation in costs within payment groups. If the case-mix system were accurately predicting the costs of patients, we would expect to find much less variation in the amount of service provided within the payment groups.

Also, some beneficiary characteristics that regularly lead to high costs are not accounted for in the case-mix adjustment. If some types of beneficiaries are much more likely to lead to high costs relative to payments, there may be an incentive to avoid these patients. More research is needed to determine whether agencies can manipulate the inaccurate case-mix adjustment of the PPS for financial gain. If some agencies are avoiding patients whose costs of care are not accounted for in the case-mix adjustment, then the variations we observed in agencies' margins could be partially explained by the failure of the system.

The high-cost outlier provision might help certain types of beneficiaries find an agency that is willing to serve them and to get sufficient care once they are accepted. Still, the high-cost outlier is only one of several provisions in the home health PPS designed to accommodate cost variations. Furthermore, additional research is needed to understand cost variations and the efficacy of the PPS as a whole. That research could suggest replacing the PPS altogether, rather than making incremental changes to its existing structure.

Costs may vary widely within case-mix groups

Our analysis of the variation in the number of minutes per episode suggests that costs may vary widely from patient to patient within the same case-mix group.[8] On one hand, this suggests that the case-mix adjuster may merit further examination. But it also suggests that an outlier provision could be an important part of the home health PPS, especially if the variation is caused by patient characteristics we would not wish to include explicitly in the case-mix adjustment, such as the availability of a caregiver.

We measured variation using the coefficient of variation (CV). This statistic is the standard deviation in the number of minutes divided by the average number of minutes. Out of the 80 case-mix groups in the home health PPS, 42 had CVs greater than 1.00. CVs greater than one imply that the standard deviation is greater than the average; it is not unusual for some patients to receive more than twice as much service as others in the same case-mix group. The lowest CV was 0.67. These scores imply a very wide dispersion of minutes per episode within case-mix groups. For example, patients in one of the case-mix groups receive an average of 1,300 minutes of care per episode, and the standard deviation is also 1,300. The CV for the case-mix group is 1, so most people in that group receive 1,300 minutes of care—*give or take 1,300 minutes.*

The wide variation in minutes per episode is not unexpected, given the large unit of payment and the persistent challenges of defining the home health benefit. Over the course of the two months included in an episode, high-cost patients could receive dozens of visits more than the average patient in the same case-mix group. Even if the number of visits did not vary widely (it does; data not shown), the length of visits required for patients with unusual home health needs may be much longer than average. The lack of product definition contributes to the variation in minutes because few evidence-based protocols of care standardize care from one patient to another or from one agency to another.

This analysis cannot determine the causes of the variation in minutes per episode by resource group nor the relationship between minutes and costs. Variation in costs per minute could be caused by differences in quality or

efficiency from agency to agency. The measurement of minutes may be subject to substantial data errors because this is a relatively new report and it is not audited.

Some patient characteristics often lead to high costs relative to payments

Several patient characteristics that are measured in the patient assessment but are not used to adjust payment are associated with higher-than-average percentages of high-cost outliers. For example, the average percentage of outliers is 2.7, but among patients who use a ventilator or cannot administer their own injectable medication, the average percentage of outliers is 4.0 and 7.2, respectively (Table 2D-6). If patient characteristics such as ventilator use are related to high costs, perhaps a refinement of the case-mix system could include measures like these.

The availability of informal caregivers—family, friends, or paid caregivers not provided by the home health agency—can affect the amount of care the agency provides. Payments do not vary based on the availability of these other sources of care. Not surprisingly, with decreasing availability of informal care comes a higher likelihood that the episode will become a high-cost outlier episode for the agency (Table 2D-7).

TABLE 2D-6

Some patient characteristics appear to be related to outlier frequency

Patient characteristic	Share of all episodes	Incidence of outliers
Unable to self-administer injectable medication	13%	7.2%
Uses a ventilator	<1	4.0
Obese	14	3.9
Manages injectable medication if prompted	3	3.2
Primary symptoms poorly controlled	29	3.1
History of re-hospitalization	5	3.1
Uses continuous airway pressure	<1	3.1
Smokes heavily	7	3.0
Requires prompting under stress	24	2.9
Confused in new situations	31	2.8
All patients	100	2.7

Source: MedPAC analysis of the 20 percent Datalink file from CMS.

TABLE 2D-7

Outliers are more common when beneficiaries have less informal care

Use of informal care	Share of episodes	Share of episodes that are outliers
Overall frequency of outliers	100%	2.7%
Multiple times during day or night	66	2.2
Once daily	5	3.8
3+ times per week	5	3.3
Once or twice during week	3	4.2
Less than weekly	1	5.3
None, missing, or unknown	20	3.5

Note: Informal care giver frequency was none, missing, or unknown for many episodes. All differences in level in this table are statistically significant to the $p<.01$.

Source: MedPAC analysis of the 20 percent Datalink file from CMS, 2001.

Patients with very frequent care from caregivers—multiple times during the day or night—have a lower than average frequency of outlier episodes. Conversely, patients with infrequent informal care or no caregiver have higher than average frequencies of outliers. Refinement of the case-mix system to include a measure of informal care is very problematic because of the perverse incentive it creates to exclude important, unpaid caregivers from the care process. It may raise legal issues as well.

Directions for the future

The home health PPS sets episode payments prospectively; the actual cost of an episode for any given patient will rarely be exactly the same as the expected cost. Over multiple episodes the system is designed to pay agencies appropriately, on average. High-cost outlier payments help mitigate especially high costs within a single episode for unusually sick or disabled patients who cannot be reclassified into a different case-mix group.

As such, the outlier payment provision addresses only one source of variation in the relative costliness of patients—higher than average costs within a case-mix group, within a single episode. The significant change in condition (SCIC) and multiple-episode provisions of the home health prospective payment system also perform some of the functions of an outlier policy. The SCIC provision allows the case-mix group to change for the balance of

days (and thus increase the payments for those days) during episodes if patients' conditions deteriorate during episodes. Also, the provision of new episode payments every 60 days is designed to compensate for the high costs of patients with unusually long stays. Thus, two typical circumstances that could lead to some patients' costs being different from the norm are compensated by provisions other than the outlier provision.

We plan to continue our examination of the PPS—its case-mix adjustment and other features—in two other projects. We will examine alternatives to prospective payment in the June 2005 Report to Congress. Perhaps a single payment system is not suited to the task of paying accurately for both posthospital recovery care and for long-term, chronic care. We will also work with a contractor to conduct an in-depth investigation of case mix and financial performance for a mandated report next fall. Limitations of the case-mix system may have created opportunities for some agencies to benefit from patient populations with higher expected profitability than their peers. The results of our analysis of the outlier payment provision suggest several sources of variation in cost that are not reflected in the payment adjustment, such as the use of informal care. Our examination of case mix and financial performance will include both the characteristics that are included in the case-mix adjustment and some that are not. ■

Endnotes

1 Operation Restore Trust began as a demonstration project in 1995 in California, Florida, Illinois, New York, and Texas and was expanded to additional states in 1997. It included skilled nursing facilities and other sectors of Medicare in addition to home health.

2 This rate is based on a database of agency service areas collected and maintained as part of CMS's "Home Health Compare" database as of September 2004. The service areas are the postal ZIP codes where an agency provided care to at least one beneficiary in the past 12 months. Our estimate may be an overestimate of availability, because agencies' willingness to serve one beneficiary in a ZIP code does not necessarily imply a willingness to serve the entire ZIP code area if the area is particularly large or nonhomogeneous. On the other hand, this estimate might understate the availability of home health care if a ZIP code that an agency is willing to serve produces no requests for service in the 12-month period. A complication in this analysis arises from beneficiaries with post office boxes. We cannot correctly locate the residence of such beneficiaries; most of them enter our analysis as "unserved," but we cannot determine whether they reside in a served or an unserved area.

3 CAHPS is an annual survey of about 100,000 fee-for-service beneficiaries conducted by CMS.

4 Of all beneficiaries surveyed, 9.4 percent indicated that they needed home health care.

5 Our measurement of minutes of service is based on the reported length of face-to-face visits with patients. It does not include other services that could be delivered by other means (such as a phone call or remote monitoring) or services not conducted during a visit (such as care planning or professional consultation). It relies on the accuracy of reported minutes, which is a fairly new data element on the claim and is not audited.

6 Measures of functional improvement may not reflect the goals of patients with chronic conditions whose goals are stabilization but who are included in the group of patients who "could" improve.

7 We measured the size of agencies in terms of the number of episodes they provided in 2001.

8 Ideally, we would have a measurement of the marginal costs of minutes to determine the true variation in costs among different episodes. The literature often uses the number of visits as an approximation of costs. We are able to refine the typical approach by using minutes instead of visits. However, there are no data available to directly translate minutes to costs.

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